

Environmental Protection Agency (EPA) & Indian Health Service (IHS)

Presentation to Hopi Tribal Council
Program Information, Hopi Arsenic Mitigation Project,
and other Projects
November 8, 2017

EPA Region 9 Tribal Drinking Water Program

- **Emmanuelle Rapicavoli** – Region 9 Tribal Drinking Water Program Manager for Hopi Public Water Systems (PWS).
- Region 9's Tribal Drinking Water Program regulates **13 public water systems** on Hopi for compliance with the Safe Drinking Water Act (SDWA) regulations.
- These regulations include monthly monitoring for water borne pathogens such as E.coli as well as periodic monitoring for chronic contaminants such as arsenic.
 - See provided Arsenic FAQ prepared by EPA PhD Toxicologist

EPA Drinking Water Tribal Set Aside Program

- Region 9 receives a portion of the set-aside from the Drinking Water State Revolving Fund (DWSRF) to fund drinking water infrastructure projects on Tribal land in Region 9.
- In the last three years we've received on average **\$6.5M** to fund DW infrastructure in Region 9.
- We solicit project proposals in the fall; our upcoming deadline for FY18 projects is November 9, 2017.
- We award funds based on our health-based ranking criteria that prioritizes projects that address acute and chronic drinking water contaminants.
- We typically award our funding to the Indian Health Service through Interagency Agreements in the summer.

Examples of EPA DWTSA Projects on Hopi

- Since 2006, we've provided \$5.3 million toward Hopi Arsenic Mitigation Project (HAMP) in several funding years.
- In addition to the HAMP, other projects we've recently funded:
 - New Upper Moenkopi N-Aquifer Well Construction (\$627,000) Funded in 2015
 - FMCV New West Water Storage Tank (\$999,000) Funded in 2015 and 2017
 - FMCV Mesa Top System Improvements (\$308,000) funded in 2008 and completed in 2015
 - New Water Storage Tank at Shungopavi- \$308,111 grant awarded in 2012 and recently completed

IHS Office of Environmental Health and Engineering (OEHE)

- The OEHE is composed of five divisions that provide support for IHS Headquarters, each of the 12 IHS Areas, all IHS service units and many tribal programs in the following areas:
 - Division of Facilities Planning Construction (DFPC)
 - Division of Facilities Operations (DFO)
 - **Division of Sanitation Facilities Construction (DSFC)**
 - Division of Engineering Services (DES)
 - Division of Environmental Health Services (DEHS)
- The **Phoenix (PHX) Area IHS** serves the Hopi Tribe
- The Navajo (NAV) Area IHS is a distinctly separate IHS Area

IHS Division of Sanitation Facilities Construction (DSFC)

- Established 1959 per Public Law 86-121
- The DSFC provides technical and financial assistance to American Indian Tribes and Alaska Native Villages for cooperative development and construction of safe water, wastewater, and solid waste systems and related support facilities.
 - See provided program Fact Sheet with link to additional information
- PHX Area serves 45 Tribes, with past funding allocations as follows:
 - 2014; \$2.5M
 - 2015; \$2.8M
 - 2016; \$3.3M
 - 2017; \$4.2M

IHS DSFC: Hopi Service Unit

- Program goal to eliminate water and sanitation deficiencies, which include:
 - Many homes on Hopi still do not have water and wastewater services in the home (people haul water and use outhouses)
 - Water quality is not EPA-compliant for some systems
 - Water and sewer infrastructure of some systems have deficiencies
 - Provide Technical Assistance to utilities on day-to-day issues
- Staff at Hopi Health Care Center: 2 Environmental Engineers, 2 Engineering Technicians
 - Informational Receptionist currently selected, but vacant until start date
 - Additional support from District and Area Office personnel as needed

IHS DSFC Hopi Projects

- **Project Data System (PDS)** stores data about important facts and milestones of all sanitation facilities projects constructed under authorization of Public Law 86-121.
 - Active IHS Projects: \$10,456,630
 - “Active” means that a Final Report has not been published
 - Inactive IHS Projects: \$41,923,156.03
 - Dates back to 1962
 - Total IHS Projects to-date: \$52,379,786.03
 - See provided PDS listing

IHS DSFC Hopi Projects (contd)

- **Sanitation Deficiency System (SDS)** tracks identified needs for new or improved sanitation facilities for existing homes of American Indians and Alaska Natives. IHS uses SDS to allocate annual Congressional appropriations known as “Regular” funding. It is also used by other Federal agencies, including the EPA, to confirm needed projects and/or select projects for funding.
 - Current Hopi SDS Project backlog: \$40,102,999
 - See provided SDS listing

IHS DSFC SDS Funding Obstacles

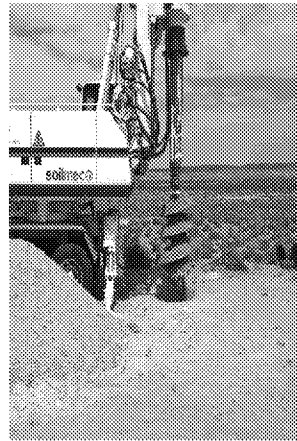
- No land access (e.g. no permission from Village)
- No Preliminary Engineering Report (PER)
 - Including lack of documentation of deficiencies from utilities
- No enforcement of open dumping ordinances to prevent future dumping
- Project has too large of a cost (e.g. Hopi Arsenic Mitigation Project)
- Projects do not competitively score high with respect to other projects in other Villages or Tribes
 - Largely due to high capital costs per home associated with rock excavation and large distances between homes

Technical Assistance Providers

- **IHS and EPA**
- **Rural Community Assistance Corporation (RCAC)** – RCAC provides technical assistance to Tribal PWS in Region 9. Since March 2017, RCAC has had a dedicated circuit rider for Hopi Public Water Systems.
- **Sanitary Surveys** are conducted by EPA contractor, Sleeping Giant Environmental Consultants at each community water system every three years. These are extensive inspections and reviews of the water system operations. We provide reports with recommendations for improvements.
- **Operator Certification Training** – EPA Funding Partnership with IHS Phoenix Area to contract with the **Inter Tribal Council of Arizona (ITCA)**. In 2018, ITCA will be offering at least two operator certification trainings in Northern Arizona.

HAMP Construction Funding Picture

- **Total Funding Already Committed:** EPA and IHS have jointly committed a total of **\$6.3M** since 2004 to fund planning, and construction activities related to the HAMP.
- The funds have been used to construct the two turquoise trail wells, complete the Preliminary Engineering Report (PER) and the Environmental Assessment (EA).
- **Remaining Balance: \$13.3M remains unfunded.** This estimate already accounts for the **\$1.1M** commitment from the Hopi Tribal Council to fund the electrical connection to the Turquoise Trail Well Field.



EPA and IHS Funding Contingencies

- Obtaining signature of First Mesa Consolidated Villages on the Utility/Tribal/Village agreements in support of the HAMP
- Submitting an application to the USDA for funding the remaining cost of the entire regional system
- The HUC developing a first-year operating budget and completed financials in support of USDA application and IHS/EPA application requirements
- Completing any follow-up requirements for USDA funding
- Expenditure of EPA and IHS construction funds is further contingent on the HUC successfully securing total project funding

EPA and IHS HAMP Conditional Commitments for FY18 and FY19

- EPA Water Division has provided a conditional commitment of between **\$3M to \$4M in FY18 and FY19.**
- The commitment is contingent on EPA receiving similar levels of funding for its set-aside program as well as the HUC completing the above-mentioned milestones.
- **EPA Application deadline for FY18 funds is November 9, 2017.**
- IHS has provided a conditional commitment of **between \$1.2 - \$2 Million in FY18 and FY19.**
- The commitment is still pending IHS HQ approval and is contingent on the HUC completing the above-mentioned milestones.

USDA-RD Application for HAMP Remainder

- **USDA-RD Application** - Based on the revised total project cost of **\$13.3M**, and the collective IHS (\$1.2M-\$2M) and EPA (\$3M-\$4M) commitments, the HUC will need to seek funding for the remaining balance of **\$7. 3M - \$9M** from USDA-RD in a grant/loan package.
- **Timing**- The HUC has indicated they plan to submit the USDA-RD application by **February 1st,2018**. This timing is also when EPA and IHS will be closer to making their FY18 funding decisions. Any delays on submitting the USDA-RD application could put future EPA and IHS funding at risk.

HAMP Questions?

Time Permitting: IHS Ongoing and Recently Completed Projects

IHS Ongoing Projects

- Hopi Arsenic Mitigation Project (\$6,530,000 funded: PH 04-S63, PH 06-D33, PH 08-T38, PH 10-E37, PH 11-E55, PH 12-E73, PH 14-U62, and PH 15-E89)
 - \$200,000 Shungopavi Village Contribution from Abandoned Mine Lands (AML) under PH 15-E89
 - Anticipated for construction in 2018, regardless of rest of HAMP funding status
- Kykotsmovi Village and First Mesa Consolidated Villages Proposed Water Storage Tanks (\$1,606,000: PH 12-U31 and PH 15-U76)
 - Prepared construction documents to 50 percent per IHS Phoenix Area Guidelines
 - Anticipated for construction 2018-2019

IHS Ongoing Projects (contd.)

- Individual Water and Sewer services on the Hopi Reservation (\$765,738: PH 15-U69, PH 16-F24, and PH 17-F37)
 - Provided individual water and sewer facilities to 14 homes (almost entirely first service) across the Hopi Reservation
 - 5 homes anticipated for construction in 2018
 - Additional 13 homes funded for construction
 - Homeowners should apply for services through their Village processes
- New Upper Moenkopi N-Aquifer Well Construction (\$627,000: PH 15-U77)
 - Two new wells planned to be drilled in Pasture Canyon and connected to existing infrastructure
 - Hydrogeologic study final report produced by D.B. Stephens & Associates to select well locations and develop specifications for well drilling and construction

IHS Ongoing Projects (contd.)

- Bacavi Water System Improvements (\$314,000: AZ09961-0601)
 - Likely to-be funded as an AML project
- Sipaulovi/Mishongnovi Wastewater Study (\$150,000: PH 10-T88)
 - Evaluating alternatives for funding water and wastewater projects for Shungopavi, Sipaulovi, and Mishongnovi homes on top of Second Mesa
 - Archaeological and biological clearance requests pending for conducting soil profiles at homes and potential lagoon sites
 - Preliminary sewer designs to be developed using recently collected survey data

IHS Ongoing Projects (contd.)

- Shungopavi Line Q (\$481,000: PH 15-U72)
 - Three honey bucket dump stations in the Village Plaza area and connect 8 homes to the newly constructed lift station
 - \$100,000 Village Contribution
 - Completed most of construction and 8 homes are online
- Kykotsmovi Sewer Rehabilitation (\$883,000: PH 10-U01)
 - Prepared drawings and specifications to procure a Closed Circuit Television (CCTV) evaluation and report of the wastewater collection system
 - Planning and designing rehabilitation to construction document phase using the CCTV findings and consulting with the Utility
 - Prepared design package to 50 percent per IHS Phoenix Area Guidelines
 - Anticipated for construction in 2018

IHS Ongoing Projects (contd.)

- Upper Village of Moenkopi Sewer Rehabilitation Phase 1 (\$530,433: PH 09-T46)
 - Designed and constructed a scope of work to optimally address as many issues (i.e. constructability, rock, archaeological/cultural issues, utility needs, proximity of existing facilities, immediate impact, future impact, flexibility for future facilities, magnitude of deficiencies, etc.) as possible within the project budget for Phase 1.
 - Designed Phase 2 of the project including a Preliminary Engineering Report (PER), which resulted in funding of \$1,061,000 under PH 17-U99
 - \$270,000 Village Contribution
 - Anticipated for construction in 2018

IHS Recently Completed Projects

- Individual Water and Sewer Services on the Hopi Reservation (\$2,021,500: PH 07-T17, PH 08-D69, PH 09-E03, PH 09-T42, PH 10-T89, PH 12-E61, and PH 14-F10)
 - Provided individual water and sewer facilities to 58 homes (almost entirely first service) across the Hopi Reservation including: 16 community water main extensions of varying sizes, 34 homes served off of community water distribution systems, 9 homes served with onsite cistern systems, 8 community sewer main extensions of varying sizes, 28 homes served off of community wastewater collection systems, 23 homes served with onsite septic tank and drainfield wastewater systems, 1 home served off of community wastewater collection system with a septic tank and small-diameter variable grade gravity sewer service line, 2 homes served with individual grinder pumps, and 11 homes served with in-home plumbing (7 medical referrals)
 - Rehabilitated the Toreva Lagoon which serves Upper Sipaulovi and Upper Mishongnovi
 - Provided O&M equipment to the Village Utility Management Cooperative for use across the Hopi Reservation

IHS Recently Completed Projects (contd.)

- First Mesa Consolidated Villages Mesa Top System Improvements (\$518,000: PH 06-D25, PH 08-D71)
 - Facilities provided include: 584 feet of insulated pipe on exposed areas of cliff face, 1,000 feet of 4-inch water main, 8,500 gallon welded stainless steel water tank, overflow discharge structure, new electrical controls, telemetry, and pumphouse piping in order to provide a more energy efficient and utility-friendly facility
- Hopi Tribal Housing Authority Sewer Replacement (\$98,000: PH 14-E92)
 - Coordinated with the Housing Authority and Hopi Tribe to enter a Memorandum of Agreement and garner funds from the Housing Authority in the interest of completing similar scopes of work in the future
 - Installed sewer facilities to four homes with failed drainfields

IHS Recently Completed Projects (contd.)

- Village of Moencopi (Lower) First Service Homes and Honey Bucket Dump Station (\$323,000: PH 07-T19).
 - Facilities provided include: first service water, sewer, and plumbing to five homes with surface sandstone throughout the project area including: 210 feet of 2-inch water main, 640 feet of 8-inch gravity sewer main, 4 manholes, 1 road crossing, and erosion control/aesthetic measures
 - Installed a honey bucket dump station to provide residents a sanitary method of wastewater disposal, which has been shown to be in regular use by a significant amount of the residents based on results of a recent IHS Division of Environmental Health Services and Hopi Tribal Community Health Representatives survey
- Kykotsmovi Village and Sipaulovi Village Water Storage Tank Rehabilitation (\$200,000: PH 05-D04)
 - Facilities provided include: Recoating and upgrades to two 75,000 gallon welded steel water storage tanks with new yard piping for each facility

IHS Recently Completed Projects (contd.)

- Village of Bacavi WWTP rehabilitation, wastewater collection system rehabilitation, and wastewater collection system expansion (\$1,540,000: PH 03-S53, PH 06-D31, PH 06-T03, and PH 09-E04)
 - Facilities provided include: 13,350 feet of gravity sewer including service connections to existing homes with significant sandstone excavation throughout the project area, 48 manholes, 3 individual grinder systems, 1 community grinder station, 1,900 feet of sewer force main, 5 roadway crossings, draining and drying of existing lagoons, and Cast In Place Pipe rehabilitation of 2,200' of existing gravity sewer
 - Provided O&M equipment (backhoe, utility truck, parts, etc.) and training to the Village

IHS Recently Completed Projects (contd.)

- **Shungopavi Sewer Expansion and Lift Station (\$888,000: PH 08-T35)**
 - Facilities provided include: water and sewer services to 18 homes with significant sandstone excavation throughout the project area including: 3,891 feet of 8-inch gravity sewer main, 12 manholes, 2 road crossings, 18 sewer service lines, 5 water service lines corresponding to first service homes, 4 homes plumbed, and a lift station
- **Shungopavi Lagoon expansion (\$491,670: PH 09-T61)**
 - American Recovery and Reinvestment Act Project
 - Facilities provided include: one acre secondary percolation cell with lining system, transfer piping, and fencing

IHS Recently Completed Projects (contd.)

- First Mesa Consolidated Villages Emergency Flooding (\$540,415: PH 10-X02, and PH 11-E92)
 - Facilities provided include: 427 feet of 10-inch water main, 100 feet of 10-inch wash crossing, 3,225 feet of 8-inch gravity sewer main, 10 manholes, fencing, erosion control measures, pump and motor replacements for three wells, pressure reducing valve and vault, lagoon dredging, and demolition of two water storage tanks compromised during flooding
 - Assisted closure between the Tribe and Department of Housing and Urban Development for Imminent Threat Grant B-09-SR-04-2509